

**\*84746\***

Page 1

\*N900040100\*

Setup Start \*NS1\*

Stop \*NS2\*

**Start Date:** 22/05/2012    **Start Qty:** 12.00    **\*12\***

**Cust Item ID:**

**Required Date:** 05/06/2012    **Req'd Qty:** 12.00    **\*12\***

**Customer:**

**Reference:**

Approvals: Process Plan: ML5 Date: 12/05/22 Tooling:

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

**Draw Nbr**

Revision Nbr

D4154

D

100

0.00

**\*100\***

## Waterjet

## FLOW CNC Waterjet

304.050

## Memo

1-Cut as per Dwg

Dwg Rev: 0

Prog Rev: 0

2-Deburr if necessary

0.00

110

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*110\***

QC

## Quality Control

## Memo

0.00

12 ~~8~~ JM  
12-5-28

12 4 Jm  
12-5-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

May-22-12 2:59:14 PM

**Item ID:** D4154-1

**Accept**

**\*N900040100\***

Setup Start \*NS1\*

Revision ID:

**Item Name:** Plate

Stop \*NS2\*

**Start Date:** 22/05/2012      **Start Qty:** 12.00

**\*12\***

**Cust Item ID:****Required Date:** 05/06/2012      **Req'd Qty:** 12.00

**\*12\***

**Customer:**

**Reference:**

**Approvals:**      **Process Plan:**                      **Date:**                      **Tooling:**                      **Date:**

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

Sequence ID/  
Work Center ID

### Operation Description

### Set Up/ Run Hours

Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
---------	--------	-----------	------------	------------	---------------	-------------

120

QC8- Inspect parts - second check

0.00

**\*120\***

OC

## Memo

0.00

## Quality Control

130

Form as per dwg

0.00

\*130\*

Brake NC

## Memo

0.00

Brake NC

140

QC5- Inspect part completeness to step on W/O

0.00

**\*140\***

QC

## Memo

0.00

## Quality Control

W/O: 84746		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D4154-1 PAR #: \_\_\_\_\_ Fault Category: SMALL FAD / water jet NCR: ☒ Yes ☐ No DQA: [Signature] Date: 12/06/16  
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: [Signature] Date: 12/06/18

NCR: 12-1507		WORK ORDER NON-CONFORMANCE (NCR) 6449						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/05/16	120	1 part at the water jet was missing a corner R.L. 10A water jet operator	S 052042 12/06/16	Scrap & destroy no replace	S 12/06/16	6 12/06/16	S 052042 12/06/16	S 12/06/16

NOTE: Date & initial all entries

# Work Order ID 84746

**\*84746\***

Page 3

May-22-12 2:59:14 PM

Item ID: D4154-1      Accept      **\*N900040100\***      Setup Start **\*NS1\***  
 Revision ID:      Stop **\*NS2\***  
 Item Name: Plate  
 Start Date: 22/05/2012      Start Qty: 12.00      **\*12\***      Cust Item ID:  
 Required Date: 05/06/2012      Req'd Qty: 12.00      **\*12\***      Customer:  
 Reference:

Approvals:      Process Plan: \_\_\_\_\_      Date: \_\_\_\_\_      Tooling: \_\_\_\_\_      Date: \_\_\_\_\_      Run Start **\*NR1\***  
 QC: \_\_\_\_\_      Date: \_\_\_\_\_      SPC (Y/N): \_\_\_\_\_      Date: \_\_\_\_\_      Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Identify as per dwg & Stock Location: <u>W/A</u>	0.00				6			12-06-12
<b>*150*</b>									102
Packaging	Memo	0.00							
Packaging									
160	QC21- Final Inspection - Work Order Release	0.00							12/6/14
<b>*160*</b>									
QC	Memo	0.00							
Quality Control									

MLJ 12/06/13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

May-22-12 2:59:18 PM

Page 1

Work Order ID: 84746

**\*84746\***

Parent Item: D4154-1

**\*D4154-1\***

Parent Item Name: Plate

Start Date: 22/05/2012

Required Date: 05/06/2012

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP Rev:A 10.08.03 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S18GA		Purchased	No			100	sf	248.8649	4.2697	53.93305			

**\*M304S18GA\***

\*\*

304/316 .050 Sheet

Location

Loc Qty

Loc Code

MAT020

248.864947

120604

24.96421

121626

128

121660

95.900737

121626

JM

12-5-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	84746
<b>Description: Plate</b>		<b>Part Number:</b>	D4154-1
<b>Inspection Dwg: D4154</b>	<b>Rev: B</b>	12.05.28	
			<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.400	+/-0.010	0.296	-		✓	HB02
0.450	+/-0.010	0.448	-		✓	
0.125	+/-0.010	0.122	-		✓	
0.88	+/-0.030	0.879	-		✓	
1.19	+/-0.030	1.179	✓		✓	
5.273	+/-0.010	5.280	✓		✓	
2.75	+/-0.030	2.756	✓		✓	
15.80	+/-0.030	15.80	✓		MT	HB-01
3.95	+/-0.030	3.956	-		✓	
4.00	+/-0.030	4.007	-		✓	
6.42	+/-0.030	6.429	-		✓	
21.75	+/-0.030	21.75	-		MT	
4.35	+/-0.030	4.355	✓		✓	
1.80	+/-0.030	1.813	✓		✓	
21.31	+/-0.030	21.31	✓		MT	
4.26	+/-0.030	4.269	✓		✓	
8.83	+/-0.030	8.829	✓		✓	
5.16	+/-0.030	5.174	✓		✓	
0.55	+/-0.030	0.556	✓		✓	
91.56	+/-0.030	91.56	✓		MT	
90.41	+/-0.030	90.41	✓		MT	
70.45	+/-0.030	70.45	✓		MT	
66.51	+/-0.030	66.51	✓		MT	
48.59	+/-0.030	48.59	✓		MT	
40.76	+/-0.030	40.76	✓		MT	
15.45	+/-0.030	15.45	✓		MT	
5.223	+/-0.010	5.227	✓		✓	
Ø0.516	+0.008/-0.001	0.516	✓		✓	
Ø0.188	+0.005/-0.001	0.190	✓		✓	
0.050	+/-0.010	0.046	✓		✓	

<b>Measured by:</b>	JM	<b>Audited by:</b>	8	<b>Preliminary Approval:</b>	
<b>Date:</b>	12-5-28	<b>Date:</b>	12/05/28	<b>Date:</b>	

Rev	Date	Change	Revised by	Approved
A	10.09.23	New Issue	KJ	
b	11.04.28	Dimensions updated per Dwg Rev B	KJ	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

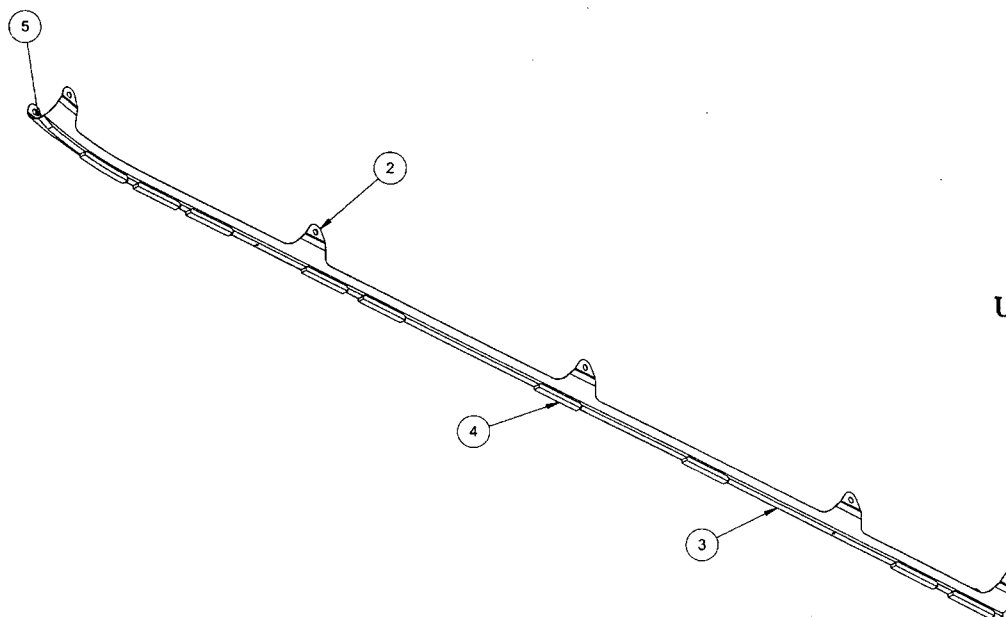
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	X	D4154-041	WEARPLATE ASSEMBLY
2	1	D4154-1	PLATE
3	1	D4155-1	BAR
4	A/R	2059B	HARDCOAT, (SEE NOTE 9, SHT 2)
5	A/R	4714	(SEE NOTE 11, SHT 2)



**D4154-041 WEARPLATE ASSEMBLY**

SHOP COPY  
RETURN  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

NO. 84746 MJS  
12/05/22

**RELEASED**  
R 2012-05-09  
MP

D	70.45 WAS 74.45 & Ø0.188 HOLES NOW 2 PL (ZN C4-3 & C7-3)	RF	12.05.03
C	REVISE NOTE 9 (ZN A8-2); ADD HARDCOAT (ZN B7-2); ADD DETAIL A (ZN C2-2)	RF	12.02.21
B	ITEM 4 WAS PR1422 (D3-1); REMOVED FINISH TO NOTE 2 (A8-2); REMOVED SECTION A-A (NO LONGER REQUIRED); REVISED D4154-1F	MB	11.04.05
A	NEW ISSUE	SC	10.07.22
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	<b>DART AEROSPACE USA, INC.</b> KENT, WA	
DRAWN	RF		
CHECKED	JS	DRAWING NO.	REV. D
MFG. APPR.	JS	D4154	SHEET 1 OF 3
APPROVED	JS	TITLE	SCALE
DE APPR.	JS	WEARPLATE ASSEMBLY	NTS
DATE	12.05.03	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

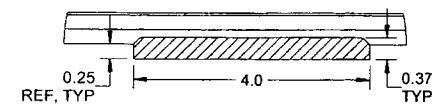
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

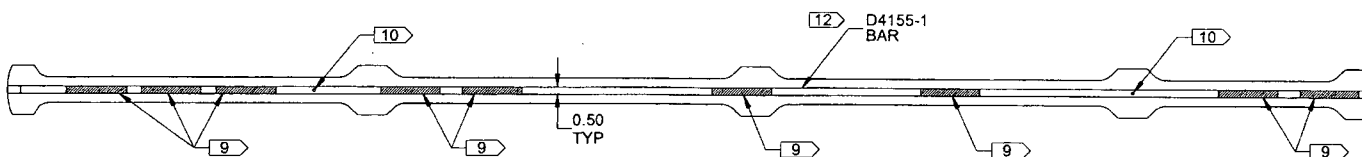
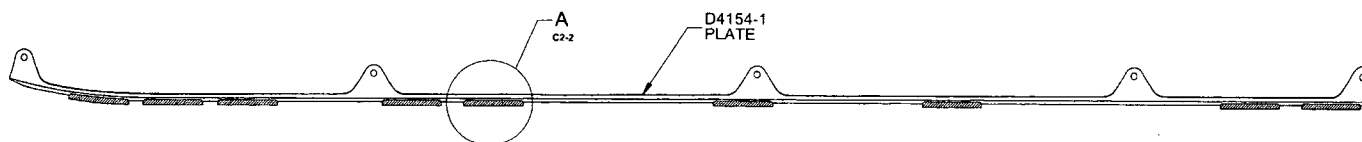
**NOTE:** Date & initial all entries



84746



**DETAIL A** CS-2  
TYP



**D4154-041 WEARPLATE ASSEMBLY**

**RELEASED**  
2012-05-09  
M

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 6.88 lbs
- 8) WELDING: PER QSI 004
- 9) 2059B HARDCOAT WELD, 0.37 THICK x 0.50 WIDE, FLUSH WITH D4155-1 BAR ON LATERAL SURFACES, 9 PL
- 10) TRANSFER DRILL  $\varnothing 0.188$  HOLES FROM D4154-1 PLATE TO D4155-1 BAR
- 11) COAT ENTIRE TOP (CONCAVE) SURFACE WITH A LAYER OF PLUS ONE ROCKGUARD 4714, 0.020-0.040 THICK
- 12) FORM TO MATCH PROFILE OF D4154-1 AT TIME OF WELDING

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. D
MFG. APPR.	<i>[Signature]</i>	<b>D4154</b>	SHEET 2 OF 3
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>WEARPLATE ASSEMBLY</b>	NTS
DATE	12.05.03	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

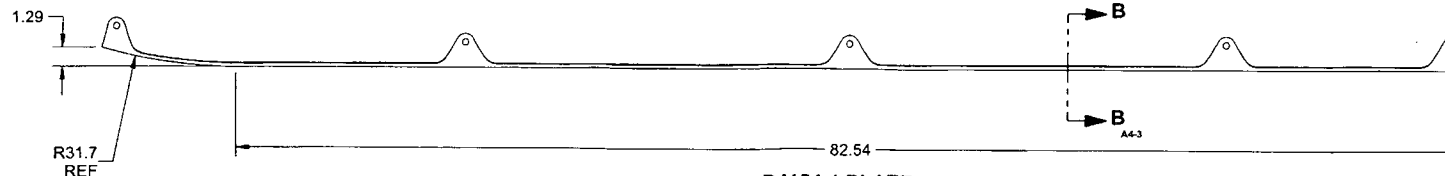
W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

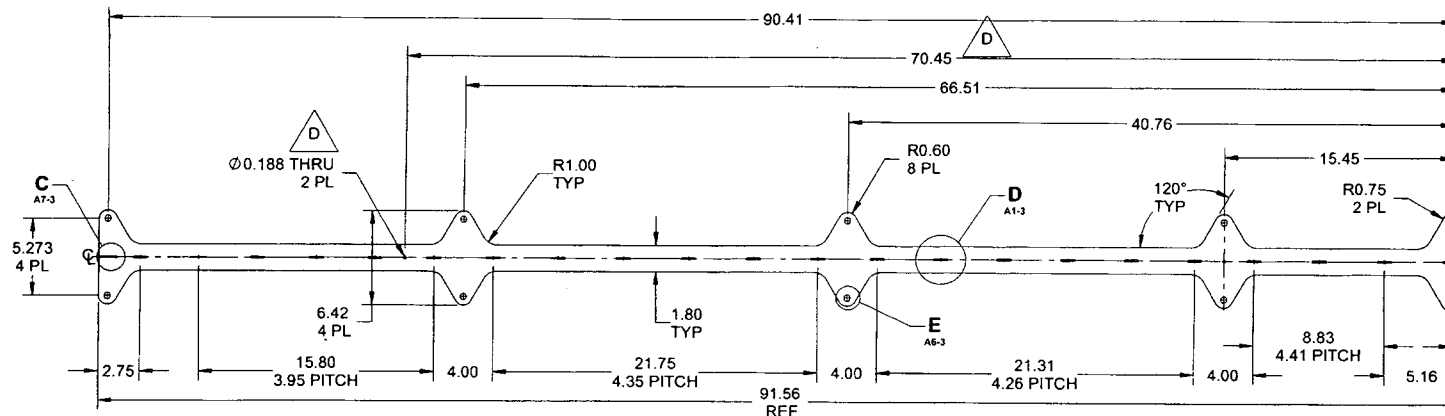
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

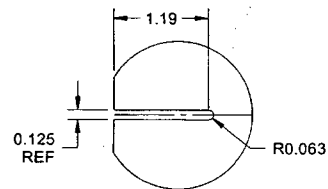
**NOTE:** Date & initial all entries



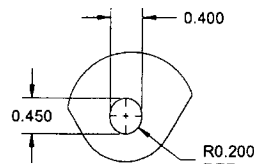
**D4154-1 PLATE**  
(MAKE FROM D4154-1F)



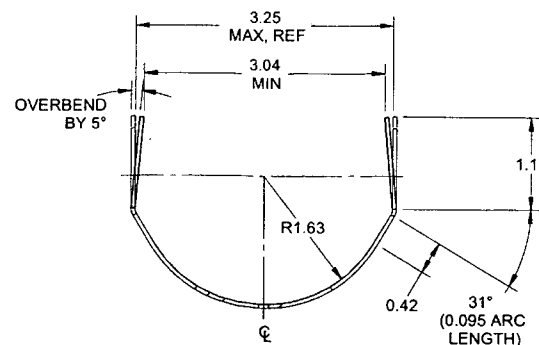
**D4154-1F FLAT PATTERN**



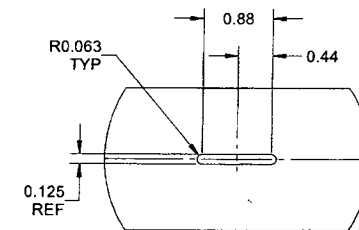
**DETAIL C**  
END SLOT DETAIL, 2 PL



**DETAIL E**  
SLOT DETAIL TYP







**SECTION B-B**



**DETAIL D**  
SLOT DETAIL TYP

- NOTES:**
- 1) MATERIAL : AISI 304/316 STAINLESS STEEL PER AMS 5513 OR 5524 OR ASTM A240 OR ASME SA240 18 GAUGE 0.050 THICK, (REF. DART SPEC. M304S18GA)
  - 2) FINISH : NONE
  - 3) TOLERANCES : PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS : INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES : 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION : NONE
  - 7) WEIGHT : 2.95-lbs

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	KENT, WA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		<b>D4154</b>	SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		<b>WEARPLATE ASSEMBLY</b>	NTS
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2012-05-09

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